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March 23, 2010

Gary Pierce, Commissioner
Arizona Corporation Commission
1200 West Washington Street
Phoenix, Arizona 85007

Arizona Corporation Commission
DOCKETED
MAR 23 2010
DOCKETED BY

RE: Community Power Project – Flagstaff Pilot
Docket No. E-01345A-09-0227

Dear Commissioner Pierce:

This letter is in response to your letter dated March 9, 2010. Arizona Public Service Company ("APS" or "Company") appreciates this opportunity to provide additional information in clarification of the Community Power Project – Flagstaff Pilot (the "Pilot"). The Pilot is an exciting opportunity for Arizona and APS to demonstrate continued leadership in renewable energy.

On January 29, 2009, the Company filed the RW Beck report entitled "Distributed Energy Operating Impacts and Valuation Study" ("Beck Study"). The Beck Study, in part, highlights that maximizing the value of distributed energy for all customers will require significant technical learning and specific strategic planning. APS also jointly participated in a 2008 Navigant Consulting Study entitled, "The Convergence of the Smart Grid with Photovoltaics: Identifying Value and Opportunities" ("Navigant Study").[1] Among the insights gained, the Navigant Study found that photovoltaic smart grid implementation will require testing and experimentation and that pilot programs will be critical to ensure that benefits can be realized on a large scale. The Company's Pilot proposes an interface between smart grid delivery technologies and a high penetration of renewable distributed energy technologies. The complete deployment of these technologies in tandem will facilitate advanced learning and refinement of technical insights in a first-of-its kind field study.

[1] Study participants include: Applied Materials; APS; Austin Energy; BP; Consolidated Edison Company of New York; Dow Chemical; Duke Energy; First Solar; Global Environment Fund; Good Energies; Orlando Utilities Commission; PNM; PSE&G; Salt River Project; San Diego Gas and Electric; Solar Integrated; Southern Company; We Energies; and Xcel Energy.

APS designed the Pilot specifically with the host customers in mind. In doing so, APS focused on a program design that was non-discriminatory with respect to the solar opportunity,[2] ensuring availability to customers of all income levels, and specifically included a solar water heating component aimed at supporting low-income customers.[3] The Company's Pilot design was also intended to increase predictability and timeliness of system installations. APS believes that meeting the initial expectations of potential Pilot participants and continuing to support those participants throughout the entire life of the Pilot is very important, not only for the Company, but for the entire solar industry in Arizona. APS and its predecessor companies have reliably served Arizona customers for over 100 years; as such, the Company is in an excellent position to provide this ongoing commitment to our customers.

APS also designed the Pilot to leverage the skills and diversity of solar installers in Arizona. The Pilot proposes to use third-party solar installers to inspect prospective participants' property, install solar energy systems, and maintain those systems should any repair be required over the operational life. All system installation costs will be paid directly to the installer/equipment provider as part of this project, including Renewable Energy Standard ("RES") distributed energy incentives for the residential installations. Importantly, APS customers in the Pilot area, the Sandvig-4 feeder in northeastern Flagstaff, retain all options for adoption of renewable energy technologies. This includes procuring a renewable energy system or energy efficiency option under any incentive program offered by APS. Through this Pilot, the Company believes it will raise its customers' awareness of their renewable energy options. APS is committed to developing new and innovative solar options, and driving increased adoption throughout Arizona.

While much of the focus on the Pilot has revolved around the deployment of photovoltaic technologies at residential and non-residential locations, this is only one facet. Deployment of the photovoltaic technologies alone does not facilitate key field study objectives for which the Pilot was designed. Data must be synchronously collected from the photovoltaic system, the distribution system and related equipment, and the end user. Only in concert will this data allow for a comprehensive evaluation of the implications of high penetrations of photovoltaic equipment on the electric distribution system and opportunities for optimized operation. The Pilot includes the technology and analytical elements necessary to collect, capture, monitor and analyze the data required to meet the Pilot's objectives.

As you are aware, APS applied for and received federal grant funding for a high penetration photovoltaic study through the U.S. Department of Energy ("DOE") in partnership with GE Energy, GE Energy Research, ViaSol Energy Solutions, Arizona State University, and the National Renewable Energy Laboratory ("APS Partners"). This partnership collectively will bring $4.2 million to fund the study, with the DOE contributing $3.3 million, APS Partners contributing $700,000, and APS contributing $180,000. This approach will bring tremendous value to APS and its customers by leveraging the resources of the DOE and APS Partners. The

[2] Many financing options offered by third party installers to customers participating in APS's standard distributed energy incentive program require certain, and often very high, credit scores.

[3] Solar water heaters are an excellent way of reducing electric consumption, thereby reducing a customer's electric bill.

partnership expands APS technical capabilities far beyond those originally envisioned in the Pilot application. APS believes that the DOE study funding is ultimately dependent on APS's ability to deploy both the renewable energy and study-related monitoring equipment within a carefully managed timeline.

APS ownership of both the photovoltaic systems and the smart delivery grid technologies is a critical component of the Pilot's technical study objectives. As the owners of both the rooftop systems and the smart grid equipment, APS will be able to manage the installation process needed to achieve the desired penetration, as well as the subsequent integration of the overall system. This integration is needed to achieve the technical and operational learning necessary to successfully deploy distributed systems throughout our service territory. As stated earlier, APS will partner with third-party solar installers to inspect prospective participants property, install solar energy systems, and maintain those systems should any repair be required over the operational life.

Although APS does not currently have any mixed use feeders of this size with this level of penetration, it is conceivable that over an extended timeframe, certain areas within the APS service territory could achieve high penetrations (over 15 percent) of distributed energy systems. In preparation for this potential outcome and in designing the Pilot, APS considered alternatives that might also result in the required photovoltaic system density within the necessary study timeframe on a single APS feeder. Those options included: 1) paying incentives higher than those currently paid to customers installing systems elsewhere to create further enticements for installation; 2) short-term (several years) deployment of systems at or near host customer property that might later be deployed elsewhere; and 3) APS deployment of utility-owned and monitored assets at the customer's site with the designed intent to operate those systems as a virtual photovoltaic "power plant" for the benefit of all APS customers. APS believes the only viable option to drive the required density within the necessary timeframe is option 3, which is the proposal for the Pilot.

For ease and clarity of response, inquiries from your letter dated March 9, 2010 are grouped into common themes below with the Company's response following each area of questioning.

1. **You have inquired whether APS ownership of the distributed energy resources is critical to the Pilot; and whether the Company's ownership of customer sited photovoltaic resources is constructive towards the RES goals.**

   As the owners of both the rooftop systems and the smart grid equipment, APS will be able to manage the installation process needed to achieve the desired penetration and accomplish the study objectives in a cost effective manner. As discussed above, it is conceivable that over years of incentive program implementation, certain areas within the APS service territory could result in a high penetration (over 15 percent) of distributed energy system deployment. This, however, is not currently the case. In fact, at the time the Company's Pilot was filed, only nine distributed energy installations had been made on homes or businesses located on the Sandvig-4 feeder.

Since that time and despite the attention this Pilot has received, the dramatic increase in APS's distributed energy program participation overall, and installers/financiers increased focus on innovative finance models, only three additional distributed energy installations in that area have been completed. To achieve the objectives of the Pilot, approximately 260 distributed energy installations must be completed among the 2,600 available customer properties on the Sandvig-4 feeder.

The RES rules require that Arizona utilities develop distributed energy resources. To date, APS has worked towards that goal by offering customers financial incentives to install distributed energy systems on their homes and businesses. APS believes it is prudent to consider all options available in the development of the required distributed energy resources, particularly if those options present an opportunity to develop those resources at a savings to the Company's customers.

In a survey conducted for APS in advance of presenting the Pilot to the Commission, APS customers demonstrated a 3:1 preference for Company-provided distributed energy services over a third-party provider. While APS does not interpret this result to suggest that customers desire only one option for achieving the distributed energy objectives in the RES, APS does believe this is a clear signal that the Company's customers would consider such an option constructive towards Arizona's renewable energy objectives.

2. **You have inquired whether APS considered alternatives to the Company's ownership of the photovoltaic resources as part of the Pilot's development; and whether the Company collaborated with installers in developing the Pilot.**

In designing the pilot, APS considered alternatives that could also result in the necessary photovoltaic system density within the necessary study timeframe on a single APS feeder where smart distribution technologies were planned for deployment. Those options included: 1) incentives higher than those currently paid to customers installing systems to create further enticements for installation; 2) short-term (several years) deployment of systems at or near host customer property that might later be deployed elsewhere; and 3) APS deployment of utility-owned and managed assets at customer property with the designed intent to operate those systems as a virtual photovoltaic "power plant" for the benefit of all APS customers. APS believes the only viable option to drive the required density within the necessary timeframe is option 3, which is the proposed Pilot.

Increasing levels of participation in APS's distributed energy programs indicate that incentives paid to customers are exceeding the installation rate anticipated by the RES; as such, the Company does not believe that a deployment strategy that increases incentives is in the best interest of its customers. APS also believes that a Pilot deployment strategy that relies on incentives is inherently less predictable, thereby making timely deployment of the Pilot much less certain.

In the process of developing details related to Pilot execution, site host selection and property review, and solar system technical criteria, the Company partnered with two installers with specific and unique experiences. APS believes that through these two consulting collaborations the Company will be able to ensure the greatest success for the Pilot, maximize customers' satisfaction with the Pilot, and ensure the Pilot represents the strongest possible collaboration with the solar industry.

Specifically, APS partnered with Architectural and Environmental Associates ("AEA"), Flagstaff's largest and most experienced installer. AEA was chosen as a development partner, because the Company believes that experience within Flagstaff, the knowledge of the city's permitting and inspections process, detailed understanding of northern Arizona's climate and its implications on design and installation, and regional building methods are important to the Pilot's overall success. APS also partnered with American Solar Electric ("ASE"), Arizona's largest and most experienced solar installer. APS believes that partnering with ASE will help ensure that well-designed systems are installed on customer rooftops, that those systems are installed using industry best practices, and that APS's procurement strategies result in the right equipment, delivered in the most constructive method.

Physical inspection of prospective host customer property, system installation, and ongoing system maintenance within the Pilot will be completed by third-parties. While APS has not yet determined the final number of installers that will serve these areas, the Company is confident that with the current market interest and APS's solicitation process, a number of cost competitive and experienced third-parties will be identified.

3. **You have inquired as to the strategies that APS will employ to ensure the distributed energy resources are procured at the best price; and whether third-parties could provide those resources for less today than described in the Pilot Application.**

APS intends to utilize a competitive procurement process for selection of both the solar energy equipment and the installation of that equipment. As with the Company's other renewable energy projects, APS believes that competitive solicitation helps to ensure that the most economic pricing is obtained for the equipment/resources requested. This competitive solicitation process also allows APS to support the solar industry in Arizona by partnering with experienced solar installers and equipment providers who will help ultimately deliver the best system, at the best price and maximize benefits to all APS customers.

On June 9, 2009, the Company issued a formal Request for Information ("RFI") to solar equipment providers and installers. The Company issued the RFI to aid in developing the concept of "bundled" predefined photovoltaic systems best suited for the Pilot and in supporting the later development of a Request for Proposals ("RFP") for systems and installation. The intent of the bundled system is to minimize

customized engineering and streamline deployment, thereby minimizing costs. As a result of this RFI, APS learned that standardized 2kW, 3KW and 4kW PV systems could be obtained from multiple installers and technology providers, making a competitive RFP process appropriate.

APS monitors the installed cost of photovoltaic systems carefully as part of the Company's distributed energy incentive program. At the time of the Pilot application, system costs were considerably higher in Flagstaff than in other parts of Arizona. Today residential photovoltaic systems are commonly installed on residential rooftops within the APS territory for less than $6 per watt. APS is increasingly confident that the results of competitive solicitation will demonstrate cost reductions to those described in the Pilot application.

4. **You have inquired about the objectives and timing of the Pilot's phased project deployment.**

The phases of Pilot deployment represent milestones at which APS intends to critically monitor key project metrics. As described in the Application, those metrics will include project budget, system deployment parameters, vendor performance, customer satisfaction and comments, and overall project management. APS believes these metrics, and likely others, will be important to ensure the overall success of the Pilot.

The "pauses" described in the Pilot Application are not specifically intended to reflect a period of time, but rather a designed opportunity to evaluate key project metrics. Such a review may not delay the installation of any system if progress continues in concert with the Pilot plan; however, if issues or concerns are identified, the evaluation period will afford an opportunity to remedy those deployment issues before further commitments are made.

5. **You have inquired regarding the shifting of risks; noted that project finance companies like SunRun will bring capital to the Arizona market; and questioned whether an APS capital investment in this project would accomplish the same outcome.**

In your letter's description of the shifting of risk, a third-party's operation of a renewable energy system is by definition a risk reduction strategy. APS does not agree with this premise. As Arizona's longest serving and largest utility, APS believes that the Company is ideally suited to mitigate the risk of operating large numbers of independently installed renewable energy system. APS is the single most invested company in delivering affordable, reliable, and renewable energy in Arizona. Today, within the solar energy value chain, APS is the primary entity through which the Commission can mange concerns regarding renewable energy objectives, system operation, and rates charged to the customer for these technologies.

With respect to your question regarding capital investment in Arizona, the simple answer is "yes." Both APS and SunRun generally raise capital from investors around the country and the world and brings that capital to Arizona by investing in projects here in our state. APS is able to raise capital directly from its own balance sheet or through its parent company. There are three important benefits relative to APS's ability to fund renewable projects. First, APS's overall cost of capital almost by definition is lower than the capital that a solar developer or financier would likely have access to. This is driven by the fact that APS is an investment-grade, publically-traded utility with access to both relatively low cost debt and equity. Second, APS can arrange financing quickly because it has the flexibility to fund investments such as the Pilot from over $1.0 billion in credit facilities that the Company can borrow against, and then at the right opportunity, raise the appropriate amount of debt and equity capital in conjunction with overall corporate financing plans. Third, APS can efficiently use tax credits generated from renewable projects such as the Pilot. Therefore, APS does not need to find specialized tax equity investors that will purchase the Pilot's tax incentives. All of these benefits combined increase the speed with which we can fund investments such as the Pilot, as well as reduce overall financing costs ultimately borne by our customers.

APS believes it is important to remember that whether through the payment of incentives and subsequent loss of revenues from generating energy behind the customer meter,[4] or whether through the Company's ownership of the Pilot's generating resources, in the end APS customers will shoulder the cost of distributed renewable energy. The Company urges the Commission to recall that thousands of distributed renewable energy systems have and continue to be installed by APS's customers. To that point, this Pilot represents only a small fraction of systems reserved year-to-date through APS's standard incentive program and less than ten percent of the systems installed by third-parties in 2009.

I hope that the information provided is responsive to your inquiry. Company representatives will be prepared to answer further questions you might have on this topic at the next open meeting.

Sincerely,

Deborah R. Scott

DRS/jlj

[4] Lost revenue is redistributed to the Company's entire customer base at the time of the next rate case.

cc: Kristin K. Mayes, Chairman
Commissioner Paul Newman
Commissioner Sandra Kennedy
Commissioner Bob Stump
Steven M. Olea
Janice M. Alward
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